

# THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

**World Seeds, Inc.**

Whereas, THERE HAS BEEN PRESENTED TO THE  
**Secretary of Agriculture**

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED NOVEL VARIETY OF SEXUALLY REPRODUCED PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF *seventeen* YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLENISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE RIGHT TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, OR IMPORTING IT, OR EXPORTING IT, OR USING IT IN PRODUCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY PROTECTION ACT. THE UNITED STATES SEED OF THIS VARIETY (1) SHALL BE SOLD BY VARIETY NAME ONLY AS CERTIFIED SEED AND (2) SHALL CONFORM TO THE NUMBER OF GENERATIONS SPECIFIED BY THE OWNER OF THE RIGHTS. (84 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

COMMON WHEAT

'Tracey'

In Testimony Whereof, I have hereunto set my hand and caused the seal of the Plant Variety Protection Office to be affixed at the City of Washington this 11th day of September in the year of our Lord one thousand nine hundred and eighty.

Attest:

*Sumner L. Lee*  
Commissioner  
Plant Variety Protection Office  
Grain Division  
Agricultural Marketing Service

*Robert R. Bennett*  
Secretary of Agriculture



UNITED STATES DEPARTMENT OF AGRICULTURE  
AGRICULTURAL MARKETING SERVICE  
LIVESTOCK, POULTRY, GRAIN & SEED DIVISION

FORM APPROVED  
OMB NO. 40-R3822

APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE

INSTRUCTIONS: See Reverse.

No certificate for plant variety protection may be issued unless a completed application form has been received (5 U.S.C. 553).

1a. TEMPORARY DESIGNATION OF VARIETY MP-122		1b. VARIETY NAME Tracey		FOR OFFICIAL USE ONLY PV NUMBER 7900083	
2. KIND NAME Hard Red Spring Wheat		3. GENUS AND SPECIES NAME Triticum Aestivum L.em.The11 ssp.vulgare(Vill.,Host)Macke		FILING DATE 5-31-79	TIME 4:15 <u>P.M.</u>
4. FAMILY NAME (BOTANICAL) Gramineae		5. DATE OF DETERMINATION October, 1976		FEE RECEIVED \$ 500.00 \$ 250.00	DATE 5-31-79 7/21/80
6. NAME OF APPLICANT(S) World Seeds, Inc.		7. ADDRESS (Street and No. or R.F.D. No., City, State, and ZIP Code) 6361 Yarrow Dr. - Suite D Carlsbad, CA 92008		8. TELEPHONE AREA CODE AND NUMBER 714/438-0239	
9. IF THE NAMED APPLICANT IS NOT A PERSON, FORM OF ORGANIZATION: (Corporation, partnership, association, etc.) Corporation			10. IF INCORPORATED, GIVE STATE AND DATE OF INCORPORATION Minnesota		11. DATE OF INCORPORATION Aug. 1, 1972
12. NAME AND MAILING ADDRESS OF APPLICANT REPRESENTATIVE(S), IF ANY, TO SERVE IN THIS APPLICATION AND RECEIVE ALL PAPERS: Alfredo Garcia Vice President - Research, World Seeds, Inc. 6361 Yarrow Dr.- Suite D., Carlsbad, CA 92008					

13. CHECK BOX BELOW FOR EACH ATTACHMENT SUBMITTED:

- ☒ 13A. Exhibit A, Origin and Breeding History of the Variety (See Section 52 of the Plant Variety Protection Act.)
- ☒ 13B. Exhibit B, Novelty Statement.
- ☒ 13C. Exhibit C, Objective Description of the Variety (Request form from Plant Variety Protection Office.)
- ☒ 13D. Exhibit D, Additional Description of the Variety.

14a. DOES THE APPLICANT(S) SPECIFY THAT SEED OF THIS VARIETY BE SOLD BY VARIETY NAME ONLY AS A CLASS OF CERTIFIED SEED? (See Section 83(a). (If "Yes," answer 14B and 14C below.)		<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	
14b. DOES THE APPLICANT(S) SPECIFY THAT THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS?	14c. IF "YES," TO 14B, HOW MANY GENERATIONS OF PRODUCTION BEYOND BREEDER SEED?		
<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	<input checked="" type="checkbox"/> FOUNDATION <input checked="" type="checkbox"/> REGISTERED <input checked="" type="checkbox"/> CERTIFIED		
15a. DID THE APPLICANT(S) FILE FOR PROTECTION OF THIS VARIETY IN OTHER COUNTRIES? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO (If "Yes," give name of countries and dates.)			
15b. HAVE RIGHTS BEEN GRANTED THIS VARIETY IN OTHER COUNTRIES? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO (If "Yes," give name of countries and dates.)			

16. DOES THE APPLICANT(S) AGREE TO THE PUBLICATION OF HIS/HER (THEIR) NAME(S) AND ADDRESS IN THE OFFICIAL JOURNAL? ☒ YES ☐ NO

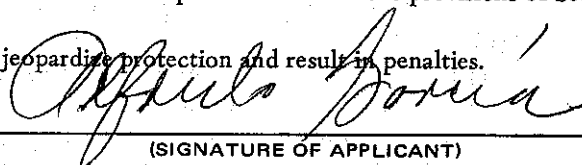
17. The applicant(s) declare(s) that a viable sample of basic seed of this variety will be furnished with the application and will be replenished upon request in accordance with such regulations as may be applicable.

The undersigned applicant(s) is (are) the owner(s) of this sexually reproduced novel plant variety, and believe(s) that the variety is distinct, uniform, and stable as required in Section 41, and is entitled to protection under the provisions of Section 42 of the Plant Variety Act.

Applicant(s) is (are) informed that false representation herein can jeopardize protection and result in penalties.

May 15, 1979

(DATE)

  
(SIGNATURE OF APPLICANT)

(DATE)

(SIGNATURE OF APPLICANT)

## INSTRUCTIONS

**GENERAL:** Send an original copy of the application and exhibits, at least 2,500 viable seeds, and \$500 fee (\$250 filing fee and \$250 examination fee) to U.S. Dept. of Agriculture, Agricultural Marketing Service, Livestock, Poultry, Grain and Seed Division, Plant Variety Protection Office, National Agricultural Library Building, Beltsville, Maryland 20705. (See section 180.175 of the Regulations and Rules of Practice.) Retain one copy for your files. All items on the face of the form are self-explanatory unless noted below.

### ITEM

5 Give the date the applicant determined that he had a new variety based on (1) the definition in section 41(a) of the Act and (2) the date a decision was made to increase the seed.

13a Give: (1) the genealogy, including public and commercial varieties, lines, or clones used, and the breeding method; (2) the details of subsequent stages of selection and multiplication; (3) the type and frequency of variants during reproduction and multiplication and state how these variants may be identified and (4) evidence of uniformity and stability.

13b Give a summary statement of the variety's novelty. Clearly state how this novel variety may be distinguished from all other varieties in the same crop. If the new variety most closely resembles one or a group of related varieties: (1) identify these varieties and state all differences objectively; (2) attach statistical data for characters expressed numerically and demonstrate that these differences are significant; and (3) submit, if helpful, seed and plant specimens or photographs of seed and plant comparisons clearly indicating novelty.

13c Fill in the Exhibit C, Objective Description form, for all characteristics for which you have adequate data.

13d Describe any additional characteristics that are not described, or whose description cannot be accurately conveyed in Exhibit C. Use comparative varieties as is necessary to reveal more accurately the description of characteristics that are difficult to describe, such as, plant habit, plant color, disease resistance, etc.

14a If "YES" is specified (seed of this variety be sold by variety name only as a class of certified seed) the applicant may NOT reverse his affirmative decision after the variety has either been sold and so labeled, his decision published, or the certificate has been issued. However, if the applicant specified "NO," he may change his choice. (See section 180.16 of the Regulations and Rules of Practice.)

15a See section 42 of the Plant Variety Protection Act and section 180.7 of the Regulations and Rules of Practice.

## ORIGIN, CROSS AND BREEDING HISTORY OF MP-122

### Origin

The cross from which MP-122 originated was made during the 1966-67 growing season in Salinas, California.

### Cross

This rather complex cross was made using as female a well known line from the University of Minnesota. The male parent is an F2 plant derived from an F1 x F2 cross involving seven spring wheat varieties from Mexico, Argentina and the United States. The cross was made in the following manner:

FKN-II-50-18 X F2 [(SON64xTPP-Y54)xCRIM] X [(SON64-Y50 DxP.GTO xJs)]

### Brief Description of Parents

Parents: FKN-II-50-18 (=Frontana X K58-Newthatch): A line developed by the University of Minnesota that has very good tolerance to leaf diseases and is very resistant to leaf and stem rusts. It carries (1) the following genes for stem rust resistance: Sr 5, 6, 7a, 8, and 9b. The main weakness of this line is susceptibility to shattering.

SON64 (=SONORA 64): The first semi-dwarf variety with acceptable quality developed in 1964 by the Rockefeller-Mexican program. It is very early and resistant to stem rust but susceptible to leaf rust.

TPP (=Tezanos Pinto Precoz): A tall and early Argentina variety, very resistant to the three rusts and very resistant to shattering and leaf diseases.

Y54 (=Yaqui54): A tall, early and good quality variety developed by the

Rockefeller-Mexican program in 1954. It is very resistant to stem rust but susceptible to leaf rust. Yaqui54 was one of the first Mexican varieties introduced to California for commercial production.

CRIM: Developed by the University of Minnesota, resistant to stem rust but susceptible to leaf rust.

Y50D (=Yaqui 50 Dwarf): First came Yaqui 50, a tall, early and very good quality variety developed in 1950 by the Rockefeller-Mexican program. This variety was crossed to Norin 10 X Brevor to develop the dwarf line. used in this cross.

P.GTO (=Pergamino Gaboto): A tall Argentinian variety that is very resistant to the three rusts and leaf diseases.

Js (Justin): Developed by the North Dakota Agricultural Experiment Station in association with the Crop Research Division of the U.S.D.A. It is very resistant to stem rust but susceptible to leaf rust. It has very high protein and also very strong gluten.

DETAIL STAGES OF BREEDING HISTORY FROM THE F1 THRU THE F11 GENERATIONSF1 Generation

The first generation was planted at Encinitas, California on Dec. 15, 1967. We space planted 80 kernels in a row 20' X 18" to secure seed for the next generation. The entire row was harvested in bulk in early June of 1968.

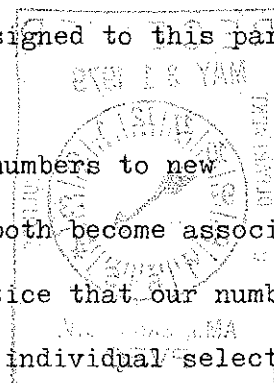
F2 Generation

Seed of the F2 population was rushed to Grand Forks, North Dakota where it was planted rather late, June 20, 1968. We planted 60 rows 20' X 22" and about 80 kernels per row. The cross was so outstanding that two additional plantings were made using the reserve seed. The second planting was done at Grand Forks, North Dakota in 1969, and the third planting was at Holtville, Ca. in 1969-70. From the three plantings we screened 10,740 plants from the F2 population. The second and third plantings had no bearing on MP-122 so we will make no further reference to them in this report. The following permanent number was assigned to this cross:

F2 Pedigree: 6W03062

In the above pedigree the number 6 stands for Hexiploid, the letter W stands for wheat and 3062 is the permanent number assigned to this particular F2 population.

In order to avoid duplication we assign progressive numbers to new crosses. Once a number is assigned to a cross they both become associated permanently even if the cross is totally disregarded. Notice that our numbering system allows room for 99,999 different crosses. No individual selections were made from the F2 population, rather, the entire cross consisting of approximately 4,800 plants was then harvested in bulk to



secure seed for the next generation.

7900083

### F3 Generation

We now start the construction of the pedigree for MP-122.

F3 Pedigree: 6W03062-2B

The number 2 has been assigned permanently for all individual selections or bulk seed obtained under North Dakota growing conditions. Since no selections were made from the previous generation we simply add the capital letter B to the pedigree to indicate that the F3 was made up of North Dakota bulk seed. The F3 seed (reserve seed is always kept) was planted at a low seeding rate in 1.30 acres at Holtville, California in 1968-69. At harvesting time we walked thru this population and selected over 300 individual heads from the best looking plants. Each head was handled individually and recorded in the book under the "Pedigree Method of Selection".

### F4 Generation

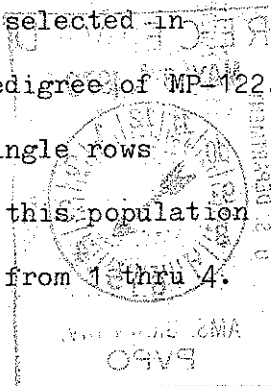
We see no need in writing the pedigree for every selection from the previous generation, therefore, from now on we shall indicate only the pedigree leading directly to the genealogy of MP-122. The pedigree for this generation stands as follows:

F4 Pedigree: 6W03062-2B-1301

The number 1 has been assigned permanently to all selections or bulk seed obtained from California. Out of the hundreds of heads selected in previous generations number 301 becomes part of the pedigree of MP-122. Individual heads of the F4 generation were planted in single rows 20' X 18" each, at Encinitas, California in 1969. From this population we selected four single plants which numbered at random from 1 thru 4.

### F5 Generation

Plant #3 became part of the pedigree as indicated on the next page:



F5 Pedigree: 6W03062-2B-1301-13

The single plants were grown at Holtville, California in 1969-70. From each plant we seeded three rows 20' X 18". We selected from this population 13 single plants.

#### F6 Generation

Plant #12 selected previously became associated with the pedigree as indicated below:

F6 Pedigree: 6W03062-2B-1301-13-112

Each plant was seeded in plots of three rows 20' X 22" at Grand Forks, North Dakota in 1971. No individual selections were made from this generation. Two out of the three row plots were bulked to secure seed for preliminary yield trials.

#### F7 Generation

No single selections were involved in this generation. The pedigree stands as follows:

F7 Pedigree: 6W03062-2B-1301-13-112-2B

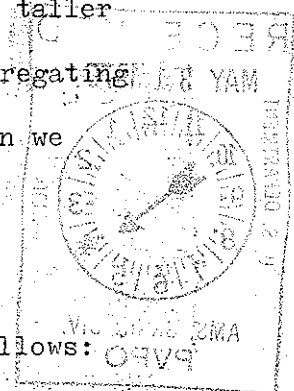
Seed from this generation was used to conduct preliminary yield trials under irrigation at Holtville, California in 1971-72. The preliminary performance of this line was excellent. It out yielded Blue Bird #2 (later named Yecora by Mexico) by 10% and WS-1651 by 12%. However, we found this line to be 17 centimeters (nearly seven inches) taller than WS 1651, therefore, too tall for irrigation. It was segregating badly for maturity under short days. For further purification we selected six individual heads from this yield trial.

#### F8 Generation

Head #1 selected previously became part of the pedigree as follows:

F8 Pedigree: 6W03062-2B-1301-13-112-2B-11

The six individual heads were again planted at Holtville, California in 1972-73. Each head was seeded in single rows 20' X 18". The line





was still segregating for maturity so five heads were selected from this generation.

#### F9 Generation

The pedigree for this generation stands as follows:

F9 Pedigree: 6W03062-2B-1301-13-112-2B-11-12

Individual heads were planted at Holtville, Ca. in 1973-74 in single rows 20' X 18". Five individual heads were again selected at harvesting time, as the line was not quite uniform for maturity.

#### F10 Generation

Head #4 was record as part of the pedigree out of the previous five selection. This generations pedigree is:

F10 Pedigree: 6W03062-2B-1301-13-112-2B-11-12-14

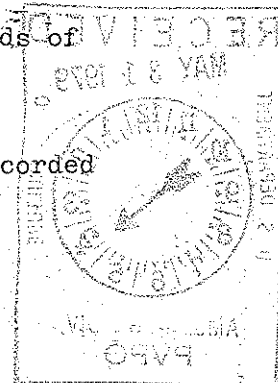
All five of the selections were planted in single rows again measuring 20' X 18" at Brawley, Ca. in the 1974-75 season. At this stage the line looked very stable for maturity. We bulked hundreds of rows from this and other crosses at harvesting time.

#### F11 Generation

This final generation was made up of seed bulked from the previous generation as indicated by the pedigree below:

F11 Pedigree: 6W03062-2B-1301-13-112-2B-11-12-14-1B

From an individual row 20' X 18", we obtained close to two pounds of seed. A portion of the seed was used for yield trials grown at St. Thomas, North Dakota and for a preliminary seed increase recorded under MP-122 and grown at Holtville, Ca. in 1976-77.



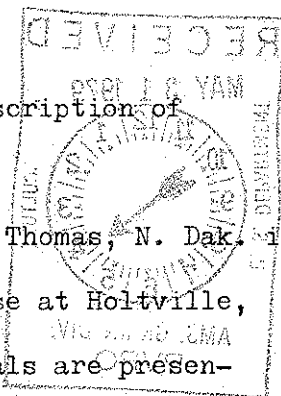
SUMMARY OF BREEDING HISTORY

Cross: FKN XF2 [(SON64xTPP-Y54)xCRIM] X [(SON64-Y50 DxP.GTO)xJs] (1)

Pedigree: F11, 6W03062-2B-1301-13-2B-11-12-14-1B

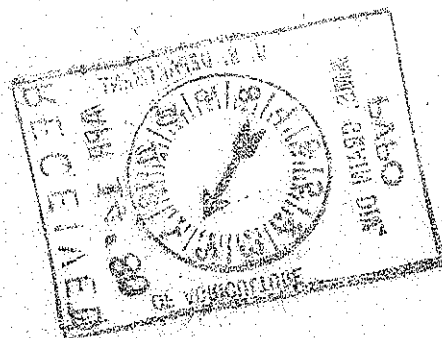
<u>Generation</u>	<u>Year and Growing Location</u>	<u>Generation Harvested and Year</u>
F 1	1967-1968, Encinitas, Ca.	F 2, 1968
F 2	1968, Grand Forks, N. Dak.	F 3, 1968
F 3	1968-1969, Holtville, Ca.	F 4, 1969
F 4	1969, Encinitas, Ca.	F 5, 1969
F 5	1969-1970, Holtville, Ca.	F 6, 1970
F 6	1971, Grand Forks, N. Dak.	F 7, 1971
F 7	1971-1972, Holtville, Ca. preliminary yield trial segregated for maturity	F 8, 1972
F 8	1972-1973, Holtville, Ca.	F 9, 1973
F 9	1973-1974, Holtville, Ca.	F10, 1974
F10	1974-1975, Brawley, Ca.	F11, 1975 "stock seed" (2)

- (1) For an explanation of the abbreviations and a brief description of the parents involved, see the beginning of this report.
- (2) Stock seed was used for the yield trials grown at St. Thomas, N. Dak. in 1976, 1977 and 1978, also for the preliminary seed increase at Holtville, Ca. in 1976-77. Results from the 1976 and 1978 yield trials are presented elsewhere in this report. The 1978 crop was lost so there is no information given for that year.



13B-1. Stability

The entire germplasm of 'Tracey' is stable, therefore; no variants are expected to occur in this variety during the process of producing the various certified seed classes.



## NOVELTY STATEMENT

YIELD TRIALS RESULTS FROM PUBLIC AS WELL AS FROM PRIVATE SOURCES SEEM TO INDICATE THAT TRACEY YIELDS VERY WELL IN MANY AREAS OF THE HARD RED SPRING WHEAT BELT. OUR OWN TESTS INDICATE THAT TRACEY YIELDS BETTER THAN PROFIT 75 AND WORLD SEEDS 25, WHEN GROWN SIDE BY SIDE IN ST. THOMAS, NORTH DAKOTA. IT HAS VERY GOOD RESISTANCE TO LEAF AND STEM RUSTS, AND IT IS MODERATELY SUSCEPTIBLE TO SOME RACES OF YELLOW STRIPE RUST WHEN GROWING UNDER DAMP CONDITIONS IN WESTERN MONTANA. TRACEY IS VERY RESISTANT TO SHATTERING AND IN SPITE OF CARRYING ONLY ONE MAJOR GENE FOR SHORT STRAW, IT IS RESISTANT TO LODGING. THIS VARIETY HAS GOOD PROTEIN CONTENT, (BUT BELOW THAT OF CHRIS AND WALDRON), AND ACCEPTABLE MILLING AND BAKING CHARACTERISTICS.

### DISTINCTIVE CHARACTERISTIC OF TRACEY.

THE SPIKES OF TRACEY ARE AWNED AND THE GLUMES ARE BROWN WITH DISTINCTIVE AND PERMANENT DARKER STRIPES OR MARKINGS RUNNING LENGTHWISE ON THE OUTER AND INSIDE EDGES OF THE GLUMES AND LEMMAS. IN THIS PARTICULAR RESPECT, TRACEY IS <sup>most</sup> ~~AS~~ SIMILAR TO THE VARIETY ANGUS, NAMED AND RELEASED IN 1978 AND DEVELOPED JOINTLY BY THE MINNESOTA AGRIC. EXP. STN. AND THE SEA-USDA. B 4/29/80

THERE ARE OTHERS AWNED AND BROWN GLUMES VARIETIES GROWN IN THE UNITED STATES, THEY ARE: POLK, WORLD SEEDS 1812, SIETE CERROS 66, AND W-433; BUT NONE OF THEM, SHOWS THE MARKINGS OBSERVED ON THE ABOVE TWO MENTIONED VARIETIES.

### DISTINGUISHING CHARACTERISTICS BETWEEN TRACEY AND ANGUS.

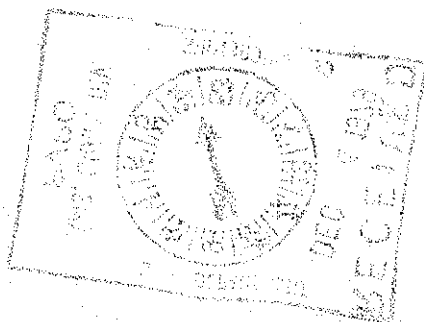
HEIGHT: GROWING SIDE BY SIDE ON ROWS 22" APART AND UNDER DRY-LAND CONDITIONS, TRACEY IS ABOUT FOUR INCHES TALLER THAN ANGUS.

SHATTERING RESISTANCE: THIS IMPORTANT CHARACTERISTIC IS THE MOST STRIKING DIFFERENCE BETWEEN THE TWO VARIETIES. WE OBSERVED THAT THE VARIETY ANGUS SHATTERS EASILY, EVEN BEFORE THE PLANT REACHES FULL MATURITY. ON THE OTHER HAND, TRACEY IS VERY RESISTANT AND IT WILL NOT SHATTER EVEN LONG AFTER THE PLANT HAS REACHED COMPLETE MATURITY.

### STABILITY OF STRIPING UNDER EXTREME WEATHER CONDITIONS.

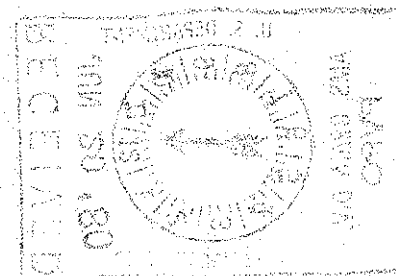
THE STRIPES OBSERVED ON THE GLUMES AND LEMMAS OF THE VARIETIES TRACEY AND ANGUS, ARE PERMANENT AND FULLY EXPRESSED EVEN AFTER THEY HAVE BEEN EXPOSED TO EXTREME WEATHER CONDITIONS.

THIS PHENOMENON IS CLEARLY DIFFERENT FROM THAT REPORTED ON THE VARIETY KNOWN AS BLACKHULL. IN THIS VARIETY THE STRIPES ARE NOT EXPRESSED UNDER SEVERE WEATHER CONDITIONS.



Height among various Hard Red Spring wheat varieties grown on dry-land and in wide rows, 20' x 22" each, in St. Thomas, North Dakota in 1979.

<u>Variety</u>	<u>Replications</u>		<u>Average Height</u>	
	I	II	Inches	Cm.
Era	27	25	26.0	66.00
Profit 75	25	25	25.0	63.50
Chris	33	32	32.5	82.55
Tracey	32	31	31.5	80.00
Waldron	34	33	33.5	85.09
Siete Cerros 66	27	24	25.5	64.77
Butte	28	26	27.0	68.58
WS-1809	25	23	24.0	60.96
Angus	28	27	27.5	69.85
Coteau	32	31	31.5	80.00
WS-25	27	25	26.0	66.00
Kitt	27	26	26.5	67.31



Temporary Designation: MP-122  
Variety Name: TRACEY

FORM APPROVED. OMB NO. 40-R3712

FORM GR-470-6  
(2-15-73)

UNITED STATES DEPARTMENT OF AGRICULTURE  
AGRICULTURAL MARKETING SERVICE  
GRAIN DIVISION  
HYATTSVILLE, MARYLAND 20782

EXHIBIT C  
(Wheat)

OBJECTIVE DESCRIPTION OF VARIETY  
WHEAT (TRITICUM SPP.)

INSTRUCTIONS: See Reverse.

NAME OF APPLICANT(S) <b>World Seeds, Inc.</b>	FOR OFFICIAL USE ONLY
ADDRESS (Street and No. or R.F.D. No., City, State, and ZIP Code) <b>6361 Yarrow Drive Suite D Carlsbad, California 92008</b>	PVPO NUMBER <b>7900083</b>
	VARIETY NAME OR TEMPORARY DESIGNATION <b>TRACEY</b>

Place the appropriate number that describes the varietal character of this variety in the boxes below.  
Place a zero in first box (e.g.  or ) when number is either 99 or less or 9 or less.

1. KIND:

1 = COMMON 2 = DURUM 3 = EMMER 4 = SPELT 5 = POLISH 6 = POULARD 7 = CLUB

2. TYPE:

1 = SPRING 2 = WINTER 3 = OTHER (Specify)  1 = SOFT 2 = HARD 3 = OTHER (Specify)

1 = WHITE 2 = RED 3 = OTHER (Specify)

3. SEASON - NUMBER OF DAYS FROM EMERGENCE TO:

FIRST FLOWERING  LAST FLOWERING

4. MATURITY (50% Flowering):

NO. OF DAYS EARLIER THAN  1 = ARTHUR 2 = SCOUT 3 = CHRIS  
 NO. OF DAYS LATER THAN  4 = LEMHI 5 = NUGAINES 6 = LEEDS

5. PLANT HEIGHT (From soil level to top of head):

CM. HIGH  1 = ARTHUR 2 = SCOUT 3 = CHRIS  
 CM. TALLER THAN  4 = LEMHI 5 = NUGAINES 6 = LEEDS  
 CM. SHORTER THAN

6. PLANT COLOR AT BOOTING (See reverse):

1 = YELLOW GREEN 2 = GREEN 3 = BLUE GREEN

7. ANTHR COLOR:

1 = YELLOW 2 = PURPLE

8. STEM:

Anthocyanin: 1 = ABSENT 2 = PRESENT  Waxy bloom: 1 = ABSENT 2 = PRESENT  
 Hairiness of last internode of rachis: 1 = ABSENT 2 = PRESENT  Internodes: 1 = HOLLOW 2 = SOLID  
 NO. OF NODES (Originating from node above ground)  CM. INTERNODE LENGTH BETWEEN FLAG LEAF AND LEAF BELOW

9. AURICLES:

Anthocyanin: 1 = ABSENT 2 = PRESENT  Hairiness: 1 = ABSENT 2 = PRESENT

10. LEAF:

Flag leaf at booting stage: 1 = ERECT 2 = RECURVED 3 = OTHER (Specify)  Flag leaf: 1 = NOT TWISTED 2 = TWISTED  
 Hairs of first leaf sheath: 1 = ABSENT 2 = PRESENT  Waxy bloom of flag leaf sheath: 1 = ABSENT 2 = PRESENT  
 MM. LEAF WIDTH (First leaf below flag leaf)  CM. LEAF LENGTH (First leaf below flag leaf)

## 11. HEAD:

Density: 1 = LAX 2 = DENSE 3 = Middense  Shape: 1 = TAPERING 2 = STRAP 3 = CLAVATE  
4 = OTHER (Specify) \_\_\_\_\_

Awnedness: 1 = AWNLESS 2 = APICALLY AWNLETED 3 = AWNLETED 4 = AWNED

Color at maturity: 1 = WHITE 2 = YELLOW 3 = PINK 4 = RED  
5 = BROWN 6 = BLACK 7 = OTHER (Specify) \_\_\_\_\_

CM. LENGTH   MM. WIDTH

## 12. GLUMES AT MATURITY:

Length: 1 = SHORT (CA. 7 mm.) 2 = MEDIUM (CA. 8 mm.) 3 = LONG (CA. 9 mm.)  
 Width: 1 = NARROW (CA. 3 mm.) 2 = MEDIUM (CA. 3.5 mm.)  
3 = WIDE (CA. 4 mm.)

Shoulder: 1 = WANTING 2 = OBLIQUE 3 = ROUNDED  
shape: 4 = SQUARE 5 = ELEVATED 6 = APICULATE  Beak: 1 = OBTUSE 2 = ACUTE 3 = ACUMINATE

## 13. COLEOPTILE COLOR:

1 = WHITE 2 = RED 3 = PURPLE

## 14. SEEDLING ANTHOCYANIN:

1 = ABSENT 2 = PRESENT

## 15. JUVENILE PLANT GROWTH HABIT:

1 = PROSTRATE 2 = SEMI-ERECT 3 = ERECT

## 16. SEED:

Shape: 1 = OVATE 2 = OVAL 3 = ELLIPTICAL  Cheek: 1 = ROUNDED 2 = ANGULAR

Brush: 1 = SHORT 2 = MEDIUM 3 = LONG  Brush: 1 = NOT COLLARED 2 = COLLARED

Phenol reaction: 1 = IVORY 2 = FAWN 3 = LT. BROWN  
(See instructions): 4 = BROWN 5 = BLACK

Color: 1 = WHITE 2 = AMBER 3 = RED 4 = PURPLE 5 = OTHER (Specify) \_\_\_\_\_

MM. LENGTH   MM. WIDTH   GM. PER 1000 SEEDS

## 17. SEED CREASE:

Width: 1 = 60% OR LESS OF KERNEL 'WINOKA'  
2 = 80% OR LESS OF KERNEL 'CHRIS'  
3 = NEARLY AS WIDE AS KERNEL 'LEMHI'  Depth: 1 = 20% OR LESS OF KERNEL 'SCOUT'  
2 = 35% OR LESS OF KERNEL 'CHRIS'  
3 = 50% OR LESS OF KERNEL 'LEMHI'

## 18. DISEASE: (0 = Not Tested, 1 = Susceptible, 2 = Resistant)

STEM RUST (Races)  LEAF RUST (Races)  STRIPE RUST (Races)  LOOSE SMUT  
 POWDERY MILDEW  BUNT  OTHER (Specify) \_\_\_\_\_

## 19. INSECT: (0 = Not Tested, 1 = Susceptible, 2 = Resistant)

SAWFLY  APHID (Bydv.)  GREEN BUG  CEREAL LEAF BEETLE  
 OTHER (Specify) \_\_\_\_\_ HESSIAN FLY RACES:  GP  A  B  C  
 D  E  F  G

## 20. INDICATE WHICH VARIETY MOST CLOSELY RESEMBLES THAT SUBMITTED:

CHARACTER	NAME OF VARIETY	CHARACTER	NAME OF VARIETY
Plant tillering		Seed size	
Leaf size		Seed shape	
Leaf color		Coleoptile elongation	
Leaf carriage		Seedling pigmentation	

## INSTRUCTIONS

GENERAL: The following publications may be used as a reference aid for the standardization of terms and procedures for completing this form:

- (a) L.W. Briggie and L. P. Reitz, 1963, Classification of Triticum Species and Wheat Varieties Grown in the United States, Technical Bulletin 1278, United States Department of Agriculture.
- (b) W.E. Walls, 1965, A Standardized Phenol Method for Testing Wheat Seeds for Varietal Purity, contribution No. 28 to the handbook of seed testing prepared by the Association of Official Seed Analysts. (See attachment.)

LEAF COLOR: Nickerson's or any recognized color fan should be used to determine the leaf color of the described variety.

## BOTANICAL CLASSIFICATION<sup>(1)</sup>

Variety Experimental Designation: MP-122

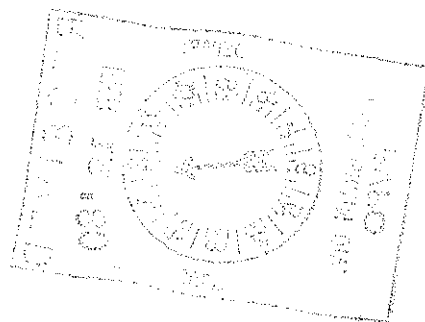
Variety Official Name: 'Tracey'

### I. Plant Characters:

1. Maturity: Midseason
2. Height: Midtall (Semi-dwarf variety carrying one main gene for short straw)
3. Habit of Growth: Spring

### II. Stem Characters:

1. Color: White
2. Strength: Midstrong
3. Hollowness: Hollow



### III. Spike Characters:

1. Awedness: Awned, awns brown; average of extreme lengths, 100 mm.
2. Shape: Tapering (fusiform)
3. Density: Middense
4. Position: Inclined
5. Shattering: Very Resistant

### IV. Glume Characters: (Glabrous)

1. Color: Brown with distinctive and permanent darker stripes or markings running lengthwise on the outer and inside edges of glumes and lemmas.
2. Length: Midlong, average 8.75 mm.
3. Width: Midwide, average 3.8 mm.



Botanical Classification, Cont'd - 'Tracey'

V. Shoulder Characters:

1. Width: Narrow
2. Shape: Square

VI. Beak Characters:

1. Width: Narrow
2. Shape: Acuminate
3. Length:

Maximum	6.0 mm.
Average	5.0 mm.
Minimum	4.0 mm.

VII. Kernel Characters:

1. Color: Red
2. Length: Midlong, average 6.4 mm.
3. Texture: Hard
4. Shape: Ovate

VIII. Germ Character:

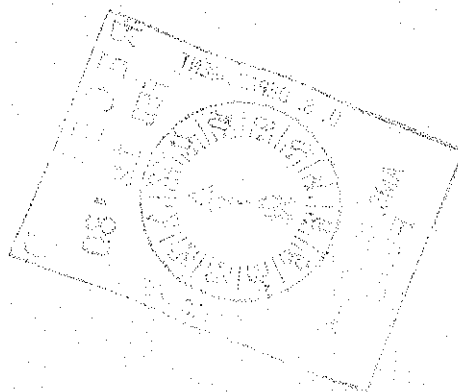
1. Size: Midsized

IX. Crease Characters:

1. Width: Midwide
2. Depth: Middeep

X. Cheek Character:

1. Shape: Rounded



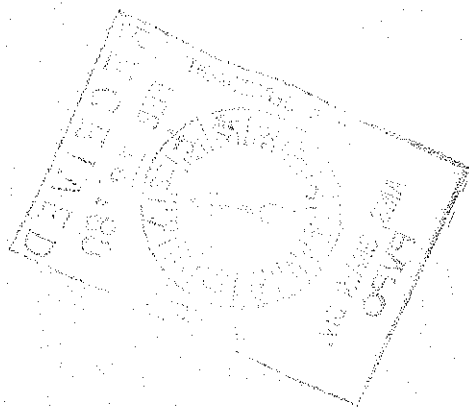
Botanical Classification, Cont'd - 'Tracey'

XI. Brush Characters:

1. Size: Midsized
2. Length: Midlong
3. Collar: None

(1) Reference Consulted:

BRIGGLE, L.W. and L.P. REITZ. 1963 Classification of Triticum Species and of Wheat Varieties Grown in the United States. Technical Bulletin No. 1278, U.S.D.A., Washington, D.C.



Mean Yields, bushel weight, height and heading for the same entries in the 1978 Uniform Regional Hard Red Spring Wheat Performance Nursery. (1)

VARIETY	BU/A	% OF WALDRON	TO STRAIGHT Lbs/Bu	HEIGHT Cm.	INCHES	HEADING IN DAYS
Era	41.15	112	58.79(2)	72.52	28.55	64(4)
James (SD 2373)	39.69	108	58.43(2)	79.34	31.23	58(4)
Len (ND 543)	38.84(2)	105	59.11(3)	75.96(2)	29.91	62(5)
<del>Tracey</del> 12/27/79 MP 122	37.68	102	56.71(2)	77.92	30.68	65(4)
Waldron	36.89	100	57.78(2)	78.41	30.87	60(4)
Chris	31.23(3)	85	58.42(4)	<del>90.70</del> 6/20/80 <del>66.59(3)</del>	26.22	63(6)
Marquis	31.53	85	57.58(2)	66.84	26.32	63(4)
Average Yield 36.71						

(1) Averages from 21 stations, except as indicated

(2) 20 Stations

(3) ~~49 Stations~~ See following table and letter of 6/18/80

(4) 18 Stations

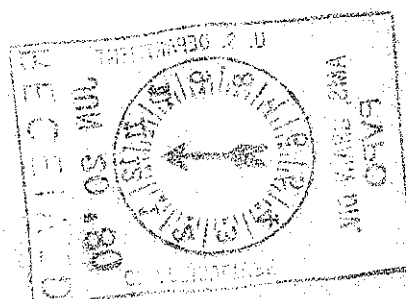
(5) 17 Stations

(6) 16 Stations

Height between 'Tracey' and 'Chris' as reported by the 1978 Uniform Regional Hard Red Spring Wheat Nursery' from the following twenty locations(1).

<u>Location</u>	<u>Varieties, Height in Cm.</u>	
	<u>Tracey</u>	<u>Chris</u>
St. Paul	78.0	95.0
Morris	81.0	94.0
Crookston	81.3	102.0
Minot	85.0	104.0
Dickinson	80.0	98.3
Williston	85.0	103.7
Fargo	81.0	96.7
Selby	79.0	86.0
Brookings	89.0	97.0
Redfield	78.0	78.0
Havre	69.0	86.0
Sidney	81.0	97.0
Aberdeen	87.0	110.0
Tetonia	60.0	75.0
Bonnars Ferry	86.0	91.0
Torrington	75.0	78.0
Madison	68.0	78.3
Pullman	71.0	94.0
Mead	60.0	70.0
Winnipeg	70.0	80.0
<u>Average Height, Cm.</u>	<u>77.22</u>	<u>90.70</u>

(1) There were 22 locations in 1978 but no height was reported for Chris from Langdon(Table 1-05) and Carrington(Table 1-09).



SUMMARY OF MONTANA RESULTS, 1978 (1)

<u>ENTRY</u>	<u>BU/ACRE</u>	<u>TEST WEIGHT</u> <u>LBS./BU.</u>	<u>HEADING</u> <u>DATE</u>	<u>HEIGHT</u>	
				<u>Cm.</u>	<u>INCHES</u>
<i>Tracey</i> <i>D 12/27/79</i> <del>MP-422</del>	65.4	59.3	188.60	61.94	24.0
Solar	64.6	60.5	186.75	58.06	23.0
Era	63.5	60.2	187.33	57.62	23.0
Newana	63.4	60.0	186.16	56.19	22.0
Prodax	63.4	57.9	185.04	56.06	22.0
75 S 5511-4	63.0	60.8	184.29	58.87	23.0
75 S 5511-2	61.7	60.5	184.67	59.37	23.0
NHS 183-74	60.3	59.8	180.50	54.62	21.0
75 S 5509	59.8	59.4	182.50	57.69	23.0
Navojoa, Triticale	59.5	52.6	180.62	57.44	23.0
75 S 5508	57.2	58.1	188.00	54.93	22.0
Octo Bulk, Triticale	56.9	51.2	180.71	62.44	25.0
75 S 5511-1	56.9	60.9	183.96	58.12	23.0
Fortuna	55.4	61.0	183.83	70.00	28.0
Cebeco 1024	53.9	58.6	188.87	65.13	26.0
Thatcher	42.4	59.3	183.58	72.06	28.0

(1) BU/ACRE and TEST WEIGHT figures represent averages from seven (7) locations. HEADING and HEIGHT are averages from six (6) and four (4) locations respectively. See attached sheets for statistical data and additional information.

Tracey  
12/27/79

Field reactions on ~~MP-422~~ and other spring wheat varieties to leaf rust, stem rust and leaf diseases, grown at St. Thomas, North Dakota from 1976 thru 1978. (1)

VARIETY	STEM RUST		LEAF RUST		LEAF DISEASES (2)
	1976	1977	1977	1978	
<del>MP-422</del>	0	TR-TS	0-TMR	0-5MR	1+
WS-25	0	0	10MS	10MS	2-
Chris	TMS	-	4OS	4OS	2+
WS-1809	0	-	5MS	5MS	2+
Waldron	6OR-MR	-	TR, 10MR-R	-	2++
Era	-	-	0-TMS	-	1+
Butte 592	-	-	0	-	2
Ellar	-	-	TR	-	3
Angus	-	-	0	-	3
Kitt	-	-	TR	-	2+
Olaf	-	-	0-TR	-	2+
Cotteau	-	-	0	-	2+

(1) See Code for leaf and stem rusts on the next page.

(2) Leaf diseases caused by different fungi, but no effort has been made to identify them. In 1978 we observed for the first time a heavy infection of bacterial blight. To score damages by leaf diseases we used a numerical scale of 0 to 4, where 0 indicates the most tolerant and 4 the most susceptible.

--- No information available

12/27/79

Stem and leaf rusts reactions in the adult stage in the 1978 Uniform Regional Hard Red Spring Wheat Nursery as reported by: [USDA, AR, NDSU, (Miller-Statler)]

S T E M R U S T

ENTRY	Percent	Severity	And	Reaction (1)		Av.
	OAKES	FARGO	MINOT	LANGDON	CARRINGTON	C.I. (2)
Marquis	20M	50S	0-tS	15S	tS	15.9
Chris	0-tMS	0-tMS	0	0	0-tS	0.0
Waldron	tR	0, tR, 10MS 10R-5MR	0	0	0	0.1
James	0	0	0	0	0	0.0
Len	0	tR	0	0	0	0.1
Era	0	t-10MS	0	0	0	0.4
MP-122 Tracey 12/27/79	0	20MS	0	0	0	3.2

(1) Comma - Separation of plants into 2 or more reaction classes (segregation or seed mixture)

Dash - Range in reaction on each plant or range in severity between plants with the same reactions.

Natural Inoculum - Additional inoculations of races 15B (LTM) and 151 (QSH) at Fargo. Readings at soft dough to mid-dough stages.

(2) Av. C.I. - Average coefficient of infection is the average of the 5 coefficients of infection for each entry. C.I. for each reading was determined by multiplying percent severity by reaction where resistant (R) = 0.2, moderately resistant (MR) = 0.4, intermediate (M) = 0.6, moderately susceptible (MS) = 0.8, and susceptible (S) = 1.0. When a double reading occurred, only the percent severity and the response preceding the comma or dash was used to determine the coefficient.

Trace severity (t) = 2.5 percent.

# L E A F R U S T

<u>ENTRY</u>	Percent	Severity	And	Reaction (1)		Av.
	<u>OAKES</u>	<u>FARGO</u>	<u>MINOT</u>	<u>LANGDON</u>	<u>CARRINGTON</u>	<u>C.I. (2)</u>
Marquis	30S	20S	50S	40S	60S	40.0
Chris	5R	tS	5R-tS	5R-tS	5MS-5R	1.5
Waldron	tS, 10S	tMR	5R1-MS	5R-MR-tS	5R-2MS, 20MS	0.7
James	10R	tR	5R	5R	tR	0.8
Len	5R	5R-tMS	5R	tR	tR	0.6
Era	10R	5R	tMS-tMR	tR	5R-tMS	0.9
<del>MP-122</del>	5R	5MS-5R	5R-tS	tMS-tMR	5R-tMS	1.5
<u>Tracey 12/27/79</u>						

(1) Comma - Separation of plants into 2 or more reaction classes (segregation or seed mixture).

Dash - Range in reaction on each plant or range in severity between plants with the same reactions.

Natural Inoculum - Readings were made on flag and flag minus 1 at milk to mid-dough stage.

(2) Av. C.I. - Same values as the previous page except for t = 0.5, no intermediate (M).



# EVIDENCE TO SUPPORT IDENTITY OF VARIETY

Tracey <sup>D</sup> 12/27/79

Comparative yields and agronomic data among ~~MP-122~~ and Profit 75 spring wheat varieties grown under dry-land conditions at St. Thomas, N. Dak. in 1976. (1)

<u>VARIETY</u>	<u>#1A</u>	<u>% OF PROFIT 75</u>	<u>HEADING IN DAYS</u>	<u>HEIGHT Cm.</u>	<u>INCHES</u>
<del>MP-122</del> Tracey <sup>D</sup>	1522	158	58	85	33
WS-25	1240	128	51	77	30
Profit 75	966	100	51	70	28

- (1) In 1976 we experienced a very dry year. Among 1,300 advanced lines screened for yield, MP-122 became the number one yielder. The lines were arranged in a randomized block design with four replications. We seeded three-row plots per replication. Individual rows were 20' x 22", only one row was cut to get yield information. Heading and height notes were taken only on the first replication.

Tracey 12/27/79

Comparative yields and agronomic data between ~~MP-122~~ and other spring wheat varieties grown under dry-land conditions at St. Thomas, N. Dak. in 1978. (1)

<u>VARIETY</u>	<u>#1A</u>	<u>% OF WALDRON</u>	<u>HEIGHT Cm.</u>	<u>INCHES</u>	<u>LODGING(2)</u>	<u>SHATTERING %</u>
<del>MP-122</del> Tracey <sup>D</sup>	733.0	225	71	28	1-	0
WS-25	497.0	152	69	27	1+	1
Coteau	484.0	148	84	33	0	0
Era	435.0	133	69	27	0	0
Waldron	326.0	100	81	32	0	1

Due to late planting and early frost, no information was obtained in 1977.

- (1) The 1978 season was rather wet. Yields are down because the trial was left standing long after it ripened, so it was exposed to heavy rains, hail and up to 50 m.p.h. winds. The varieties were planted under the same experimental design and plot sizes as described for 1976.



United States Department of Agriculture

January 21, 1998

Research, Education, and Economics  
Agricultural Research Service

Marian R. Minnifield  
Secretary  
Plant Variety Protection Office  
NAL Building, Room 500  
10301 Baltimore Boulevard  
Beltsville, Maryland 20705-2351

Subj: Expired PVPO's; disposition of

1. The following expired PVPO's have been transferred to the NPGS. Our records have been changed accordingly.

<u>Serial Number</u>		<u>PVP Number</u>	<u>EXPIRED</u>
107423	01	7900099	01/02/1997
107424	01	7800077	01/02/1997
107425	01	7900062	01/02/1997
107428	01	7900095	01/02/1997
107429	01	7700092	01/02/1997
108309	01	7900116	01/29/1997
108310	01	7900117	01/29/1997
108311	01	7900087	01/29/1997
108312	01	7800080	01/29/1997
108313	01	7800020	01/29/1997
109381	01	7900113	03/27/1997
109382	01	7900030	03/27/1997
109383	01	7900102	03/27/1997
109384	01	7900063	03/11/1997
109386	01	7300068	03/11/1997
109387	01	7900120	02/26/1997
109388	01	7700028	02/26/1997
109389	01	7700112	02/26/1997
109390	01	7900040	03/11/1997
109791	01	7800071	02/26/1997
110210	01	8000058	05/15/1997
110211	01	7800103	05/01/1997
110212	02	8000001	05/01/1997
110213	01	7800001	05/01/1997

DS

110214	02	7200105	04/24/1997
110215	01	8000022	04/24/1997
110216	01	7900060	05/01/1997
110217	01	7900084	05/01/1997
110218	01	8000071	05/15/1997
110219	01	7900101	05/01/1997
110220	01	8000043	05/15/1997
110221	01	8000015	05/15/1997
110222	01	7900111	05/15/1997
110223	01	7900110	05/15/1997
110227	01	7900106	05/15/1997
110228	01	7900071	04/24/1997
110229	01	7900100	05/01/1997
110230	01	7900075	05/01/1997
110231	01	7900108	04/24/1997
110236	01	8000053	05/29/1997
110239	01	7900098	05/29/1997
110240	01	7900006	05/29/1997
110263	01	7900042	06/05/1997
110264	01	8000048	06/05/1997
110265	01	8000063	06/05/1997
110266	01	8000012	06/05/1997
110267	01	8000049	06/05/1997
110268	01	7800092	06/05/1997
112329	01	8000045	06/19/1997
112330	01	7900088	07/10/1997
112331	01	8000044	07/10/1997
112332	01	7800079	06/19/1997
112333	01	7900074	06/26/1997
112334	01	8000061	06/19/1997
112335	01	7700016	07/10/1997
112336	01	7700017	07/10/1997
112337	01	7900105	06/26/1997
112338	01	7900089	06/19/1997
112339	01	7900072	06/19/1997
112342	01	7900090	06/26/1997
112343	01	7900064	07/10/1997
112344	01	8000072	06/19/1997
112345	01	8000009	07/31/1997
112346	01	7800099	07/31/1997
112347	01	8000040	07/31/1997
112348	01	8000039	07/31/1997
112349	01	8000041	07/31/1997
112350	01	7900080	07/31/1997
112351	01	8000006	07/31/1997

112352	01	8000027	07/31/1997
112353	01	8000024	07/31/1997
112354	01	8000076	07/31/1997
112355	01	8000025	07/31/1997
112356	01	8000062	07/31/1997
112357	01	8000102	07/31/1997
112360	01	8000023	07/31/1997
112361	01	7900078	07/31/1997
112362	01	8000093	07/31/1997
112363	01	8000020	07/31/1997
112364	01	7800019	07/31/1997
112365	01	7900079	07/31/1997
113482	01	8000118	09/11/1997
113483	01	8000114	09/11/1997
113484	01	8000119	09/11/1997
113485	01	8000113	09/11/1997
113486	01	8000086	09/11/1997
113487	01	7900070	09/11/1997
113488	01	8000033	09/11/1997
113489	01	8000034	09/11/1997
113490	01	7900022	09/11/1997
113491	01	8000090	09/11/1997
113492	01	8000105	09/11/1997
113493	01	7900056	09/11/1997
113494	01	7900057	09/11/1997
113495	01	8000096	09/11/1997
113498	01	8000099	09/11/1997
113499	02	7900082	09/11/1997
113500	01	7500083	09/11/1997
113501	01	8000013	09/11/1997
113502	01	7900083	09/11/1997
113503	01	7300090	09/11/1997
114293	01	8000130	10/16/1997
114597	01	7900104	10/16/1997
114598	01	8000077	10/16/1997
114599	01	8000111	10/16/1997
114600	01	8000011	10/16/1997
114601	01	8000134	10/16/1997
169608	01	8100103	07/15/1997

Sincerely,



Eugene D. Keys

Computer Assistant

Data Management

	Initials	Date
Prepared By		
Approved By		

45-621 EYE-EASE  
45-921 20/20 BUFF  
NATIONAL Made in U. S. A.

# MILLING AND BAKING INFORMATION ON MP-122.

SUMMARY OF ANALYSES PERFORMED BY: DOTY LABORATORIES, INC

1435 CLAY ST., NO. KANSAS CITY, MO. 64116 (1)

1	2	3	4	5	6	7
		CARLSBAD, CA				CARLSBAD, CA
		1976---1977				1976---1977
	GRAIN	PROFIT 75				<del>MP-122</del> Tracey D 12/27
1	PROTEIN, %	12.60				13.70
2	FLOUR YIELD, %	71.90				71.50
3	SEDIMENTATION	-----				-----
4						
5	FLOUR					FLOUR
6	ASH, %	00.438				00.481
7	PROTEIN, %	11.51				12.41
8	FLOUR COLOR(2)	97 B SL C				97 B SL C
9	ABSORPTION, %	64.50				72.00
10	MIXING	NORMAL				NORMAL
11	FERMENTATION	NORMAL				NORMAL
12	LOAF VOLUME, cc.	700 V. GOOD				775 V. GOOD
13	CRUST CHARACTER	SMOOTH				SMOOTH
14	CRUMB COLOR(2)	97 B SL C				97 B SL C
15	GRAIN & TEXTURE(2)	CL. E. SK				SL O SK
16						
17	FARINOGRAPH					FARINOGRAPH
18	MIXING PEAK, MIN.	10 3/4				4 1/4
19	MIXING TOL. MIN.	17 1/2				11 1/4
20	ABSORPTION, %	62.70				69.80
21	M. T. I. VALUE	20				20
22	VALORIMETER	81				61
23						
24	REMARKS:	" THIS IS A VERY GOOD BAKERS FLOUR. IT HAS VERY GOOD MI-				" THIS IS A
25		XING STRENGTH, AND PRODUCES GOOD STRONG DOUGHS THAT HAVE VERY GOOD MA-				XING STREN
26		CHINING PROPERTIES. THE FLOUR HAS VERY GOOD OVEN SPRING, AND PRODUCES				VERY GOOD
27		BREAD WITH VERY GOOD GRAIN AND TEXTURE".				OVEN SPRIN
28		(1) THE ORIGINAL BAKING AND MILLING REPORTS ARE ON FILE IN OUR OFFICE,				
29		AND ARE AVAILABLE UPON REQUEST.				
30		(2) ABBREVIATIONS: B = BRIGHT; B = BOLD; C = CREAMY; CL = CLOSE; E =				
31		EVEN; EX = EXCELLENT; H = HARSH; O = OPEN; R = ROUGH; SL = SLIGH-				
32		TLY; SK = SILKY; UN = UNEVEN; V = VERY; Y = YELLOW.				
		--- = NO INFORMATION AVAILABLE.				

8	9	10	11	12	13	14
			CARLSBAD, CA			
			1976----1977			
			WALDRON			

			16.40			
			72.50			
			-----			
			FLOUR			
			0.498			
			15.61			
			96 C			
			70			
			NORMAL			
			NORMAL			
			905 Ex.			
			BL			
			96 C			
			SL 0 SK			
			FARINOGRAPH			
			7 ¼			
			14 ½			
			66.30			
			15			
			72			

RY GOOD BAKERS FLOUR. IT HAS VERY GOOD MI-  
H, AND PRODUCES GOOD STRONG DOUGHS THAT HAVE  
CHINING PROPERTIES. THE FLOUR HAS VERY GOOD  
AND PRODUCES BREAD WITH GOOD GRAIN AND TEX-  
TURE

" THIS IS A GOOD STRONG GLUTEN FLOUR. GIVE A NORMAL DOU  
MIXING TIME, IT PRODUCES GOOD STRONG DOUGHS THAT HAVE  
EXCELLENT OVEN OVEN SPRING. THE BREAD PRODUCED HAD GOOD  
GRAIN AND TEXTURE. WE CONSIDER THIS WHEAT AN EXCELLENT  
RRIER FOR LOWER PROTEIN WHEAT IN A BAKERS MIX".

Under 13D(6)

15	16	17	18	19	20	21
MESA, WN				MESA, WN		
1978				1978		
MP-422 <sup>2</sup> Trace, 7/17/75				WALDRON		
12.90				15.00		1
70.70				70.10		2
50				67		3
<u>FLOUR</u>				<u>FLOUR</u>		4
0.480				0.467		5
11.53				13.30		6
94 C Y				96 C		7
67.00				67.50		8
SL. SHORT				SL. LONG		9
NORMAL				NORMAL		10
640 FAIR				640 FAIR		11
SL. ROUGH				SL. ROUGH		12
94 C Y				96 C		13
0, SK				SL. 0, SL. HARSH		14
<u>FARINOGRAPH</u>				<u>FARINOGRAPH</u>		15
5				9		16
8				17 1/2		17
64.20				64.60		18
35				15		19
60				78		20
						21
						22
" THIS FLOUR LACKS OVEN SPRING. WE OBTAINED BEST RESULTS WHEN THE DOUGHS WERE TAKEN SLIGHTLY ON THE SHORT SIDE AFTER CLEAN UP. THE BREAD PRODUCED HAD JUST FAIR LOAF VOLUME, OPEN CRUMB GRAIN AND SILKY TEXTURE".				" OUR TEST BAKE RESULTS ON THIS EXPERIMENTALLY MILLED FLOUR INDICATES THAT THE FLOUR LACKS THE OVEN SPRING WHICH WE NORMALLY ASSOCIATE WITH THIS PROTEIN LEVEL. THE FLOUR HAS A SLIGHTLY LONG DOUGH MIXING REQUIREMENT, AND WHEN THOROUGHLY MIXED, PRODUCES GOOD STRONG DOUGHS THAT HANDLE VERY NICELY AT THE MOLDER. WE OBTAINED BREAD WITH LESS THAN EXPECTED VOLUME, SLIGHTLY OPEN CRUMB GRAIN AND SLIGHTLY HARSH TEXTURE".		23
						24
						25
						26
						27
						28
						29
						30
						31
						32